

15
S. Ford
5/19/00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Ariel Hendel et al.

Serial No.: 08/813,647

Filed: March 7, 1997

For: METHOD AND APPARATUS
FOR PARALLEL TRUNKING OF
INTERFACES TO INCREASE
TRANSFER BANDWIDTH

Examiner: Thong Vu

Art Unit: 2756

arc
Received
MAY 15 2000
Group 2700

05/19/2000 SFORD1 00000004 08813647

01 FC:120
02 FC:115

300.00 OP
110.00 OP

APPEAL BRIEF

Honorable Commissioner of
Patents and Trademarks
Washington, D.C. 20231

ATTENTION: Board of Patent Appeals and Interferences

Received
MAY 15 2000
Group 2700

Dear Sir:

In accordance with 37 C.F.R. 1.136(a), the Applicants for the above-identified application respectfully petition the Commissioner for a one (1) month extension of time, extending the period for filing an appeal brief to May 11, 2000 from the Notice of Appeal filed February 11, 2000. The petition fee of \$110.00 is submitted herewith. Please credit any overpayment or charge any additional amount due to Deposit Account 02-2666.

The following Appeal Brief is submitted pursuant to the Notice of Appeal filed February 11, 2000. Applicants submit, in triplicate, the following Appeal Brief

pursuant to 35 C.F.R. § 1.192 for consideration by the Board of Appeals and Interferences.

TABLE OF CONTENTS

I. REAL PARTY IN INTEREST.....	5
II. RELATED APPEALS AND INTERFERENCES	5
III. STATUS OF THE CLAIMS.....	5
IV. STATUS OF THE AMENDMENTS.....	5
V. SUMMARY OF THE INVENTION	5
VI. ISSUES PRESENTED	6
VII. GROUPING OF THE CLAIMS	6
VIII. ARGUMENT	7
A. OVERVIEW OF THE INVENTION AND PRIOR ART	7
1. <i>Overview of the Invention</i>	7
2. <i>Overview of Choudhury</i>	7
3. <i>Overview of Baker</i>	8
B. GROUP A: REJECTION OF CLAIMS 1-5, 19-20, 22-23, AND 38 AS UNPATENTABLE OVER <u>CHOUDHURY</u> AND <u>BAKER</u>	8
C. GROUP B: REJECTION OF CLAIMS 6, 12-13, 24, 28, 30-31, AND 40 AS UNPATENTABLE OVER <u>CHOUDHURY</u> AND <u>BAKER</u>	11
D. GROUP C: REJECTION OF CLAIMS 7-9 AND 25-27 AS UNPATENTABLE OVER <u>CHOUDHURY</u> AND <u>BAKER</u>	12
E. GROUP D: REJECTION OF CLAIMS 10, 11, 21, 29, AND 33 AS UNPATENTABLE OVER <u>CHOUDHURY</u> AND <u>BAKER</u>	13

F. GROUP E: REJECTION OF CLAIMS 14-18 AND 39 AS UNPATENTABLE OVER <u>CHOUDHURY AND BAKER</u>	15
G. GROUP F: REJECTION OF CLAIMS 32, 35-37, AND 41 AS UNPATENTABLE OVER <u>CHOUDHURY AND BAKER</u>	15
H. GROUP G: REJECTION OF CLAIM 34 AS UNPATENTABLE OVER <u>CHOUDHURY</u> AND <u>BAKER</u>	16
IX. CONCLUSION AND RELIEF	18
X. APPENDIX	19

I. REAL PARTY IN INTEREST

The real party in interest is Intel Corporation.

II. RELATED APPEALS AND INTERFERENCES

There are no Appeals or Interferences which will affect or be affected by the outcome of this Appeal.

III. STATUS OF THE CLAIMS

Claims 1-41 were rejected and are pending.

IV. STATUS OF THE AMENDMENTS

An amendment was filed January 19, 2000, subsequent to the November 10, 1999 final rejection. This amendment fixes two typographical errors. The Examiner states in the Advisory Action dated February 11, 2000 that the January 19, 2000 amendment would be entered upon the filing of a Notice of Appeal and an Appeal Brief.

V. SUMMARY OF THE INVENTION

Applicants' invention pertains to a method and apparatus for interconnecting a first device and a second device in a network. The first device and the second device are connected to, in one embodiment, two interfaces, or, in another embodiment, to a plurality of interfaces. (Specification, p. 8, lines 6-22). The interfaces emulate a single high-speed interface. (*Id.*). According to an embodiment of the invention, a first identifier is assigned to the first interface and the second interface at the first device. (Specification, p. 10, line 19 - p. 11, line 10). According to another embodiment of the invention, one of a plurality of interfaces is selected to transmit a packet of data. (Specification, p. 11, lines 13-15;; p. 13, lines 11-17). Which

interface is chosen is based on various criteria in various embodiments. (Specification, p. 11, lines 13-21; p. 12, line 13 - p. 13, line 4). The invention may be implemented via a trunking pseudo driver that resides between the internet protocol (IP) layer and a network device driver. (Specification, p. 10, lines 14-16).

VI. ISSUES PRESENTED

The following issue is presented by this Appeal:

Are Claims 1-41 unpatentable under 35 U.S.C. § 103 as rendered obvious by U.S. Patent No. 5,933, 412 issued to Choudhury *et al.* (Choudhury) in view of U.S. Patent No. 5,719,870 issued to Baker *et al.* (Baker)?

VII. GROUPING OF THE CLAIMS

Applicants submit that the claims do not stand or fall together. Accordingly, the claims are to be grouped as follows:

Group A	Claims 1-5, 19-20, 22-23, and 38
Group B	Claims 6, 12, 13, 24, 28, 30-31, and 40
Group C	Claims 7-9, and 25-27
Group D	Claims 10, 11, 21, 29, and 33
Group E	Claims 14-18, and 39
Group F	Claims 32, 35-37, and 41
Group G	Claim 34

VIII. ARGUMENT

A. Overview of the Invention and Prior Art

1. Overview of the Invention

Applicants' invention pertains to emulating a single high speed interface with a plurality of interfaces. That is, Applicants' invention pertains to a method and apparatus for interconnecting a first device and a second device in a network. The first device and the second device are connected to, in one embodiment, two interfaces, or, in another embodiment, to a plurality of interfaces. (Specification, p. 8, lines 6-22). The interfaces emulate a single high-speed interface. (*Id.*). According to an embodiment of the invention, a first identifier is assigned to the first interface and the second interface at the first device. (Specification, p. 10, line 19 - p. 11, line 10). According to another embodiment of the invention, one of a plurality of interfaces is selected to transmit a packet of data. (Specification, p. 11, lines 13-15;; p. 13, lines 11-17). Which interface is chosen is based on various criteria in various embodiments. (Specification, p. 11, lines 13-21; p. 12, line 13 - p. 13, line 4). The invention may be implemented via a trunking pseudo driver that resides between the internet protocol (IP) layer and a network device driver. (Specification, p. 10, lines 14-16).

2. Overview of Choudhury

Choudhury teaches a method and apparatus for improving connection setup delay in a network by parallelizing in which virtual path connections and virtual connection routing tables are used to minimize the number of pre-established virtual path connections needed. (Choudhury, col. 1, lines 53-58; col. 5, lines 27-45). The Examiner admits that Choudhury fails to teach emulating a single high speed interface

with a plurality of interfaces by assigning to the plurality of interfaces an identifier that identifies the connection between the two devices. (Final Office Action, November 10, 1999, Paper #10, p. 3, lines 5-8; Advisory Action, February 11, 2000, paper #12, p. 2, lines 10-11.).

3. Overview of Baker

Baker teaches emulating a plurality of central office station terminals over a single multi-point passive bus such that, to the switching office, each of the emulated central office stations appears as a central office station terminal, even though the plurality of central office stations are emulated over a single digital subscriber line. (Baker, abstract and col. 1, lines 46-64). More simply, Baker teaches a method and apparatus for emulating two or more ISDN terminals over one digital subscriber line (See Baker, col. 1, lines 20-43). As such, Baker teaches a plurality of terminals over a single high speed interface. Baker, therefore, teaches the converse of what is claimed by Applicants.

B. Group A: Rejection of Claims 1-5, 19-20, 22-23, and 38 as Unpatentable over Choudhury and Baker

The Examiner rejects Claims 1-5, 19-20, 22-24, 28, 30-31, 38, and 40 under 35 U.S.C. § 103(a) as being unpatentable Choudhury in view Baker. The Examiner bears the burden of supporting a *prima facie* conclusion of obviousness. To establish *prima facie* obviousness the Examiner must show: (1) suggestion or motivation, either in the references or to one skilled in the art, to modify the reference or combine the teachings; (2) a reasonable expectation of success; and (3) the combination of the prior art must teach or suggest all of the claim limitations. MPEP § 2142 *et seq.*; In re Vaech 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). As will be shown below, the Examiner has

failed to meet the burden of showing how the combination of prior art teaches or suggests all of the limitations recited in Applicants' claims. Applicants, therefore, request that the obviousness rejections to all claims be withdrawn.

With regard to Claim 1, the Examiner asserts that Choudhury discloses much of what Applicants recite in Claim 1. Choudhury generally teaches a method and apparatus for improving connection setup delay in a network by parallelizing in which virtual path connections and virtual connection routing tables are used to minimize the number of pre-established virtual path connections needed. (Choudhury, col. 1, lines 53-58; col. 5, lines 27-45). As such, Applicants' method and apparatus for parallel trunking of interfaces to increase transfer bandwidth achieve a different goal by utilizing a different method and apparatus.

More specifically, the Examiner asserts that Choudhury discloses an associated identifier that identifies the connection between said first and second devices. However, Applicants' claim recites emulating a single high speed interface with a plurality of interfaces by assigning to the plurality of interfaces an associated identifier that identifies the connection between the first and second devices. (Claim 1, lines 5-8). Choudhury neither teaches nor suggests emulating a single high speed interface with the plurality of interfaces by assigning to the plurality of interfaces an associated identifier that identifies the connection between the first and second devices. Assuming *arguendo* that Choudhury discloses an associated identifier that identifies the connection between said first and second devices, Choudhury fails to teach or suggest emulating a single high speed interface with the plurality of interfaces by assigning to said plurality of interfaces the associated identifier. Baker does not cure this deficiency.

In fact, the Examiner admits that Choudhury fails to teach emulating a single high speed interface with the plurality of interfaces by assigning to said plurality of

interfaces an associated identifier that identifies the connection between said first and second devices. (Final Office Action, November 10, 1999, Paper #10, p. 3, lines 5-8; Advisory Action, February 11, 2000, paper #12, p. 2, lines 10-11.). The Examiner then asserts because Baker teaches a single emulating multi-point bus or interface it would have been obvious to incorporate the single emulating high speed bus into Choudhury in order to enhance network control and management. However, Baker teaches emulating a plurality of central office station terminals over a single multi-point passive bus such that, to the switching office, each of the emulated central office stations appears as a central office station terminal, even though the plurality of central office stations are emulated over a single digital subscriber line. (Baker, abstract and col. 1, lines 46-64). Stated another way, Baker teaches a method and apparatus for emulating two or more ISDN terminals over one digital subscriber line. More generally, Baker teaches emulating multiple terminals over one communication line. As such, Baker teaches the converse of what is claimed by Applicants. That is, Applicants recite emulating a single high speed interface with a plurality of interfaces by assigning to said plurality of interfaces an associated identifier that identifies the connection between the first and second devices. (Claim 1, lines 5-8). Generally, Applicants recite emulating one high speed interface by using many other interfaces. To the contrary, Baker teaches emulating many terminals over one line. Therefore, Baker fails to teach or suggest emulating a single high speed interface with the plurality of interfaces by assigning to said plurality of interfaces an associated identifier that identifies the connection between said first and second devices.

The Claims in Group A recite similar limitations to those recited in Claim 1. As such, the arguments set forth above regarding Claim 1 apply to all of the claims in Group A. The combination of Choudhury and Baker neither teaches nor suggests the

limitations recited the claims in Group A. As such, the claims in Group A are not rendered obvious by the cited references. All claims in Group A, and all claims depending on Claims in Group A, are, therefore, patentable over the cited prior art. Applicants, therefore, request that the rejection of the Claims in Group A be overturned.

C. Group B: Rejection of Claims 6, 12-13, 24, 28, 30-31, and 40 as Unpatentable over Choudhury and Baker

The Claims in Group B each recite assigning an identifier to a first interface and a second interface, and identifying a path between the first device to the second device with the identifier. (Claim 6, lines 3-6; Claim 24, lines 6-8; Claim 40, lines 6-8). With regard to Claim 6, the Examiner asserts that Choudhury discloses assigning a first identifier to a first interface and a second interface, and identifying a path between the first device to the second device with the first identifier, citing Choudhury, col. 3, line 59. However, Choudhury teaches that, based on the address of a destination party, such as an end host indicated in the connection set up signaling request, a switch determines the next switch in a route by consulting a routing table which maps each destination address, such as the address of an end host, to a next switch identifier. (Choudhury, col. 3, lines 55-60). There is neither a teaching nor suggestion in Choudhury of assigning a first identifier to a first interface and a second interface, and identifying a path between the first device to the second device with the first identifier. Even if *arguendo* Choudhury teaches identifying a path between the first device to the second device, Choudhury does not teach achieving this by using a first identifier assigned to both a first interface and a second interface at the first device. As such, Choudhury neither teaches nor suggests the limitations recited in Applicants' Claim 6. Baker fails to cure

this deficiency. The combination of Choudhury and Baker neither teaches nor suggests the limitations recited in Claim 6.

The Claims in Group B recite similar limitations to those recited in Claim 6. As such, the arguments set forth above regarding Claim 6 apply to all of the claims in Group B. Therefore, the claims in Group B, and all claims depending thereon, are not rendered obvious by the cited references and are patentable over the cited prior art. Applicants, therefore, request that the rejection of the claims in Group B be overturned.

**D. Group C: Rejection of Claims 7-9 and 25-27 as Unpatentable over
Choudhury and Baker**

The Claims in Group C recite assigning a media access control (MAC) address, an internet protocol (IP) address, and a group identifier to identify a path between a first device and a second device. (Claims 7-9, lines 1-3 and Claims 25-27, lines 1-2). As set forth above with regard to Group B, neither Choudhury nor Baker teach or suggest assigning an identifier to both a first interface and a second interface. In addition, neither Choudhury nor Baker teach or suggest assigning a media access control (MAC) address, an internet protocol (IP) address, and a group identifier to identify both a first interface and a second interface between a first device and a second device. As such, Claims 7-9 and 25-27 are not rendered obvious by the cited references. Claims 7-9 and 25-27 and all claims depending thereon are, therefore, patentable over the cited prior art. Applicants, therefore, request that the rejection of the Claims in Group C be overturned.

E. Group D: Rejection of Claims 10, 11, 21, 29, and 33 as Unpatentable over Choudhury and Baker

The Claims in Group D recite allocating data over two interfaces such that data traffic on the first and second interfaces is approximately the same and/or a load balancing unit. (Claim 10, lines 1-4; Claim 21, lines 1-4; Claim 29, lines 1-4; and Claim 33, lines 1-3). With regard to Claim 10, the Examiner asserts that Choudhury teaches that the first interface and the second interface connect to an Ethernet segment with a maximum data traffic rate of 10 Mbytes/sec and, thus that the data traffic on the first interface and the second interface is approximately the same. First, the Examiner directs Applicants to col. 18, line 30 of Choudhury for this teaching. However, no such information is disclosed at the cited location. Applicants requested that the Examiner provide direction to where Choudhury teaches the first interface and the second interface connect to an Ethernet segment with a maximum data traffic rate of 10 Mbytes/sec, but the Examiner failed to provide sufficient information.

Even if *arguendo* Choudhury teaches the first interface and the second interface connect to an Ethernet segment with a maximum data traffic rate of 10 Mbytes/sec., such a teaching cannot be equated with data traffic on the first interface and the second interface being approximately the same. Having two Ethernet segments with the same maximum throughput is not the same as having two interfaces through which the data traffic is approximately the same. That two communication lines have the same maximum throughput is not the same as and may not be equated with ensuring that data traffic over two interfaces is approximately the same. Baker fails to cure this deficiency. The combination of Choudhury and Baker neither teaches nor suggests the limitations recited in Claim 10. As such, Claim 10 is not rendered obvious by the cited

references. Claim 10 and all claims depending thereon are, therefore, patentable over the cited prior art.

With regard to Claims 21 and 29, the Examiner asserts that Choudhury teaches the first device comprises a load balancing unit that allocates data to be transmitted on the first interface and the second interface such that data traffic on the first interface and the second interface is approximately the same. Although Choudhury does mention load balancing, it does so in a completing different context than as recited by Applicants. That is, Choudhury teaches load balancing among multiple connection servers to share the processing load associated with connection requests from the end units (Choudhury, col. 10, line 66 - col. 11, line 11), and not that the first device comprises a load balancing unit that allocates data to be transmitted on the first interface and the second interface such that data traffic on the first interface and the second interface is approximately the same. The load balancing in Choudhury is in the context of spreading work among multiple servers, while the load balancing recited by Applicants involves allocating data between the first interface and the second interface so that the data traffic is approximately the same. As such, Choudhury fails to teach or suggest the load balancing recited in Claims 21 and 29. Baker fails to cure this deficiency. The combination of Choudhury and Baker neither teaches nor suggests the limitations recited in Claims 21 and 29. As such, Claims 21 and 29 are not rendered obvious by the cited references. Claims 21 and 29 are, therefore, patentable over the cited prior art.

The Claims in Group D recite similar limitations to one another, particularly as to load balancing and allocating data so that data traffic on the first and second interfaces are approximately the same. As such, the arguments set forth above regarding Claims 10, 21 and 29 apply to all of the claims in Group D. Therefore, the claims in Group D and all claims depending thereon are not rendered obvious by the cited references and

are patentable over the cited prior art. Applicants, therefore, request that the rejection of the claims in Group D be overturned.

F. Group E: Rejection of Claims 14-18 and 39 as Unpatentable over Choudhury and Baker

The Claims in Group E generally recite emulating a single high-speed interface with a plurality of interfaces with either a plurality of interfaces, as in Claims 14-18, or with a two interfaces, as in Claim 39. As set forth above regarding Group A, neither Choudhury nor Baker teach or suggest emulating a single high-speed interface with a plurality of interfaces with either a plurality of interfaces or two interfaces. Rather, to the contrary, Baker explicitly teaches the opposite, communicating from a plurality of terminals over a single interface or communication line (Baker, col. 1, lines 23-64). With regard to Choudhury, the Examiner admits that Choudhury fails to teach emulating a single high speed interface with a plurality of interfaces. (Final Office Action, November 10, 1999, Paper #10, p. 3, lines 5-8; Advisory Action, February 11, 2000, paper #12, p. 2, lines 10-11.). As such, the combination of Choudhury and Baker neither teaches nor suggests the limitations recited in the claims of Group E. Therefore, the claims in Group E are not rendered obvious by the cited references and are patentable over the cited prior art. Applicants, therefore, request that the rejection of the claims in Group E be overturned.

G. Group F: Rejection of Claims 32, 35-37, and 41 as Unpatentable over Choudhury and Baker

With regard to Group F, these claims generally recite a trunking pseudo driver, coupled to a first port and a second port, that allows a first interface and a second interface to emulate a single high-speed device. (Claim 32, lines 4-8; Claim 41, lines 4-

6). The Examiner equates Claim 32 with Claim 1 and, as such, the Examiner admits that Choudhury fails to teach emulating a single high speed interface recited in Claim 32. (Final Office Action, November 10, 1999, Paper #10, p. 3, lines 5-8; Advisory Action, February 11, 2000, paper #12, p. 2, lines 10-11.). Baker fails to cure this deficiency. As set forth above regarding Group A, neither Choudhury nor Baker teach or suggest emulating a single high-speed interface. Rather, to the contrary, Baker explicitly teaches the opposite, communicating from a plurality of terminals over a single interface or communication line (Baker, col. 1, lines 23-64). Moreover, the Examiner has not met his burden of showing that either of the cited references or their combination teach or suggest a trunking pseudo driver coupled to a first port and a second port that allows a first interface and a second interface to emulate a single high-speed device as recited in the claims of Group F. The combination of Choudhury and Baker neither teaches nor suggests the limitations recited in the claims of Group F. As such, the claims in Group F are not rendered obvious by the cited references. The claims of Group F are, therefore, patentable over the cited prior art. Applicants request that the rejection of the claims in Group F be overturned.

H. Group G: Rejection of Claim 34 as Unpatentable over Choudhury and Baker

With regard to Group G, Claim 34, Applicants recite a trunking pseudo driver, coupled to a first port and a second port, that allows a first interface and a second interface to emulate a single high-speed device by an identification unit that assigns an identifier that identifies the connection between the ports by assigning an identifier to the first and second interfaces that identifies a path between the first and second device. The Examiner asserts that Choudhury discloses the trunking pseudo driver comprises

an identification unit that assigns a first identifier to the first interface and the second interface that identifies a path between the first and the second device. However, at the location cited by the Examiner, Choudhury teaches using a multiplexing identification field to distinguish between multiple cells originating from different end hosts over one connection. (Choudhury, col. 15, line 55 – col. 14, line 4). Choudhury does not teach or suggest a trunking pseudo driver that comprises an identification unit that assigns one identifier to both the first interface and the second interface such that the identifier identifies a path between the first and the second device. That is Choudhury teaches passing data from multiple end hosts over one connection, while Applicants' claim recites assigning a first identifier that identifies a path between the first and the second device via both the first interface and the second interface. Baker fails to cure this deficiency. The combination of Choudhury and Baker neither teaches nor suggests the limitations recited in Claim 34. As such, Claim 34 is not rendered obvious by the cited references. Claim 34 is, therefore, patentable over the cited prior art. Applicants, therefore, request that the rejection of the claim in Group G be overturned.

IX. CONCLUSION AND RELIEF

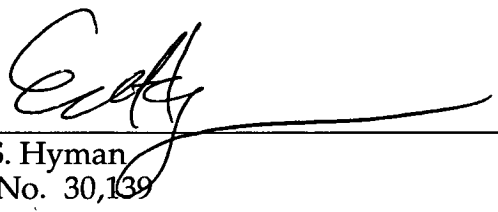
In view of the foregoing, it is believed that all claims patentably define the subject invention over the prior art of record and are in condition for allowance. Applicant requests that the Board overturn the rejection of all claims and hold that all of the claims of the present application are allowable.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

Dated: May 11, 2000

By: _____


Eric S. Hyman
Reg. No. 30,139

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents.

Washington, D.C. 20231 on 5/11/00
(Date of Deposit)

JEAN SVOBODA
Name of applicant, assignee, or Registered Rep.

Jean Svoboda 5/11/00
Signature Date

X. APPENDIX

The claims involved in this Appeal are as follows:

CLAIMS

1 1. A method for interconnecting a first device and a second device in a
2 network, comprising the steps of:
3 connecting the first device and the second device to a plurality of
4 interfaces; and
5 emulating a single high speed interface with the plurality of
6 interfaces by assigning to said plurality of interfaces an associated
7 identifier that identifies the connection between said first and second
8 devices.

*circ for
hunk
multiplex*

1 2. The method of Claim 1, further comprising the step of selecting
2 one of the plurality of interfaces to send a packet of data.

1 3. The method of Claim 2, wherein the step of selecting one of the
2 plurality of interfaces to send the packet of data comprises utilizing state
3 information in the first device.

1 4. The method of Claim 2, wherein the step of selecting one of the
2 plurality of interfaces to send the packet of data comprises utilizing address
3 information in the packet of data.

1 5. The method of Claim 1, further comprising the step of
2 transmitting a first packet of data on only one of the plurality of interfaces.

1 6. A method for creating a multi-interface connection that connects
2 a first device and a second device, comprising the steps of:
3 assigning a first identifier to a first interface and a second interface at
4 the first device; and
5 identifying a path between the first device to the second device with the
6 first identifier.

1 7. The method of Claim 6, wherein the step of assigning the first
2 identifier to the first interface and the second interface comprises assigning a
3 media access control (MAC) address.

1 8. The method of Claim 6, wherein the step of assigning the first
2 identifier to the first interface and the second interface comprises assigning an
3 Internet Protocol (IP) address.

1 9. The method of Claim 6, wherein the step of assigning the first
2 identifier to the first interface and the second interface comprises assigning a
3 grouping identifier.

1 10. The method of Claim 6, further comprising the step of allocating
2 data to be transmitted on the first interface and the second interface such that
3 data traffic on the first interface and the second interface is approximately the
4 same.

1 11. The method of Claim 10, wherein the step of allocating data to
2 be transmitted on the first interface and the second interface, comprises:

3 checking an output queue of the first interface and an output queue of
4 the second interface;

5 transmitting the data on the first interface when the output queue of
6 the second interface is fuller than the output queue of the first interface and
7 when previous data sent on the first interface is no longer on the first
8 interface; and

9 transmitting the data on the second interface when the output queue of
10 the first interface is fuller than the output queue of the second interface and
11 when previous data sent on the second interface is no longer on the second
12 interface.

1 12. The method of Claim 6, further comprising the step of selecting
2 one of the first interface and the second interface to send a packet of data
3 based on address information in the packet of data.

1 13. The method of Claim 6, further comprising transmitting a first
2 packet of data on only one of the first interface and the second interface.

1 14. A method for creating a multi-interface connection, comprising:
2 connecting a first device to a plurality of interfaces;
3 emulating a single high-speed interface with the plurality of interfaces.

1 15. The method of Claim 14, further comprising the step of selecting
2 one of the plurality of interfaces to send a packet of data.

1 16. The method of Claim 15, wherein the step of selecting one of the
2 plurality of interfaces to send the packet of data comprises utilizing state
3 information in the first device.

1 17. The method of Claim 15, wherein the step of selecting one of the
2 plurality of interfaces to send the packet of data comprises utilizing address
3 information in the packet of data.

1 18. The method of Claim 14, further comprising the step of
2 transmitting a first packet of data on only one of the plurality of interfaces.

1 19. A network, comprising:
2 a first device;
3 a second device;
4 a first interface coupled to the first device and the second device;
5 a second interface coupled to the first device and the second device,
6 wherein the first interface and the second interface emulate a single high speed
7 interface by assigning to said plurality of interfaces an associated identifier that
8 identifies the connection between said first and second devices.

1 20. The network of Claim 19, wherein the first interface and the
2 second interface are homogeneous.

1 21. The network of Claim 19, wherein the first device comprises a
2 load balancing unit that allocates data to be transmitted on the first interface

3 and the second interface such that data traffic on the first interface and the
4 second interface is approximately the same.

1 22. The network of Claim 19, wherein the first device is an end-
2 node.

1 23. The network of Claim 19, wherein the second device is a switch.

1 24. A network, comprising:
2 a first device;
3 a second device;
4 a first interface coupled to the first device and the second device;
5 a second interface coupled to the first device and the second
6 device, wherein the first interface and the second interface are assigned an
7 associated identifier that identifies a path between the first device and the
8 second device.

1 25. The network of Claim 24, wherein the identifier is an Internet
2 Protocol (IP) address.

1 26. The network of Claim 24, wherein the identifier is a media access
2 control (MAC) address.

1 27. The network of Claim 24, wherein the identifier is a grouping
2 identifier.

1 28. The network of Claim 24, wherein the first interface and the
2 second interface are homogeneous.

1 29. The network of Claim 24, wherein the first device comprises a
2 load balancing unit that allocates data to be transmitted on the first interface
3 and the second interface such that data traffic on the first interface and the
4 second interface is approximately the same.

1 30. The network of Claim 24, wherein the first device is an end-
2 node.

1 31. The network of Claim 24, wherein the second device is a switch.

1 32. A network device, comprising:
2 a first port that connects to a first interface;
3 a second port that connects to a second interface;
4 a trunking pseudo driver, coupled to the first port and the
5 second port, that allows the first interface and second interface to emulate a
6 single high-speed device by assigning to said first and second interfaces an
7 associated identifier that identifies the connection between said first and
8 second ports.

1 33. The network device of Claim 32, wherein the trunking pseudo
2 driver comprises a load balancing unit that selects one of the first and second
3 interfaces to transmit a packet of data.

1 34. The network device of Claim 32, wherein the trunking pseudo
2 driver comprises an identification unit that assigns a first identifier to the first
3 interface and the second interface that identifies a path between the first and
4 the second device.

1 35. The network device of Claim 32, wherein the first and second
2 interface are homogeneous.

1 36. The network device of Claim 32, wherein the network device is
2 an end-node.

1 37. The network device of Claim 32, wherein the network device is a
2 switch.

1 38. A method for interconnecting a first device and a second device
2 comprising the steps of:

3 connecting the first device and the second device to a plurality of
4 interfaces, said first and second devices being disposed within a single
5 local area network; and

6 emulating a single high speed interface with the plurality of
7 interfaces.

1 39. A local area network, comprising:

2 a first device;

3 a second device;

4 a first interface coupled to the first device and the second device;

5 a second interface coupled to the first device and the second device;
6 wherein the first interface and the second interface emulate a single high
7 speed interface.

1 40. A local area network, comprising:
2 a first device,
3 a second device,
4 a first interface coupled to the first device and the second device;
5 a second interface coupled to the first device and the second device;
6 wherein the first interface and the second interface are assigned an
7 identifier that identifies a path between the first device and the second
8 device.

1 41. A network device, comprising:
2 a first port that connects to a first interface;
3 a second port connects to a second interface;
4 a trunking pseudo driver, coupled to the first port and the second
5 port, that allows the first interface and second interface to emulate a single
6 high speed device for operating in a local area network environment.